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Content-Type: text/plain; charset="us-ascii"  
Date: Mon, 10 Nov 1997 00:27:54 -0600  
To: "APRS SIG list mailing"<aprssig@tapr.org>, " tacgps "<tacgps@tapr.org>,  
"TAPR-BB list mailing"<tapr-bb@tapr.org>  
From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>  
Subject: Status of GPS30PC Purchase  
Cc: Dorothy Jones <tapr@tapr.org>

TAPR was able to get another 50 GPS30PC's from Garmin after we closed the purchase to handle the people that where calling wanting an extra unit here or there. This was on top of the 50 we ordered above the group purchase number.

So ---- Dorothy has reported that we have an extra 20 or so GPS30PC left over for various reasons.

If you want a GPS30PC as part of the \$99 group purchase call Dorothy starting Tuesday (940) 383-0000 with Credit information handy.

For details can be found on <http://www.tapr.org>

I expect these to go fast!

Cheers - Greg

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Greg Jones, WD5IVD  
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<http://www.tapr.org/~wd5ivd>

From wd5ivd@tapr.org Wed Nov 12 17:56:08 1997  
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Date: Wed, 12 Nov 1997 17:53:53 -0600  
To: "TAPR-BB list mailing"<tapr-bb@tapr.org>  
From: "Greg Jones, WD5IVD" <wd5ivd@tapr.org>  
Subject: 1997 ARRL and TAPR DCC Concluding Comments

ARRL and TAPR 1997 Digital Communications Conference

See:

Main DCC Page

<http://www.tapr.org/dcc/>

All Audio Segments	<a href="http://www.tapr.org/tapr/html/dcc97audio.html">http://www.tapr.org/tapr/html/dcc97audio.html</a>
Photos from Conf	<a href="http://www.tapr.org/tapr/html/dcc97photo.html">http://www.tapr.org/tapr/html/dcc97photo.html</a>
DCC Conf Story	<a href="http://www.tapr.org/tapr/html/dcc97story.html">http://www.tapr.org/tapr/html/dcc97story.html</a>
DCC Proceedings Abstracts	<a href="http://www.tapr.org/tapr/html/cnc16.html">http://www.tapr.org/tapr/html/cnc16.html</a>
Past DCC Pages	<a href="http://www.tapr.org/tapr/html/pastdccconf.html">http://www.tapr.org/tapr/html/pastdccconf.html</a>

The Digital Communications Conference was held on October 10-12, just outside Baltimore, MD at the BWI airport. The total attendance count for the conference was over 170 people. This was another nice increase from the previous year. It seemed that the conference was well-rounded in technical content and user-featured topics. A big thanks to AMRAD who co-hosted the conference.

Friday, October 10th, 1997

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The conference began on Friday with the opening of the hospitality suite, even though the TAPR Board and ARRL Future Systems Committee had already had meetings that day.

The big event on Friday was the APRS Symposium, coordinated by Steve Dimse, K4HG. Anyone who was anyone in APRS seemed to be in attendance, which made for an active and long day of presentations. Over 80 people attended the special national symposium. We hope that this symposium will be held in the coming years and come to represent the APRS developmental community. The following people presented during the symposium: Steve Dimse, K4HG, Ralph Fowler, N4NEQ, Bob Bruninga, WB4APR, Keith Sproul, WU2Z, Gwyn Reedy, W1BEL, Bill Peet( Peet Bros), Brad Wiseman (Garmin), Mike Musick, N0QBF, Tony McConnell, N3JLY, Frank Bauer, KA3HDO, Arte Booten, N2ZRC, Mark Sproul KB2ICI, and a few others. Thanks to all those who presented and attended.

Also on Friday, Mike Cheponis, K3MC, hosted a seminar entitled "RF Basics for Computer Weenies". The seminar had over 20 people in attendance and the four hour seminar covered a whole lot of different RF related topics. Some of the things covered during the seminar included: Path Loss Considerations, Propagation mechanisms, Ground Reflection (2-ray) Model, Path Loss Models, Considerations for Mobile Stations, Relationship between Bandwidth and Received Power, Path measurement Techniques, Antennas and Feedline at 900Mhz and up, Basic Test Equipment, and more. Like I said, Mike covered a lot of stuff in-depth in a little over 4 hours.

Saturday, October 11th, 1997

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Saturday morning the conference got an early start at a little past 8:00am when Greg Jones, WD5IVD (President TAPR), and Jon Bloom, KE3Z (ARRL) welcomed the conference attendees and kicked off the conference.

If you couldn't attend the conference, TAPR is making all the main paper session presentations available on their web site ([www.tapr.org](http://www.tapr.org)) under the Virtual Conference page. The Introductory topic sessions were recorded as well and will also be available for listening to. In addition to the audio,

a full page of images from the conference is available for browsing. TAPR would like to thank all the people who did special introductory sessions during the conference. We asked presenters if they would take the extra time to do an in-depth presentation on a topic and they all did a great job. These people include: Jim Neely, WA5LHS (Intro to Digital Communications), Tom Clark, W3IWI (What is GPS? How does it work? and why do I care?), Robert Diersing, N5AHD (Intro to Digital Satellite Operations), Bob Bruninga, WB4APR, Mark Sproul, KB2ICI, and Keith Sproul, WU2Z (Intro to APRS), John Ackermann, N8UR (ex-AG9V) (Intro to Amateur Radio TCP/IP), Paul Rinaldo, W4RI (Intro to Spread Spectrum), and Barry McLarnon, VE3JF (VHF/UHF/Microwave Radio Propagation: A Primer for Digital Experimenters).

At 8:20am the main paper sessions and the introductory sessions began. The first presentation was Wireless in Ulaan Bataar by Dewayne Hendricks, WA8DZP. Dewayne talked about his experiences installing RF in Mongolia. Next was HamWeb: Rethinking Packet Radio by John Hansen, WA0PTV. John detailed his work regarding the transfer of the UoSAT broadcast protocol to terrestrial usage. John later set up his equipment in the hall and gave a live demo. All his software is available from his TAPR web page <http://www.tapr.org/~wa0ptv>. H. Hmida of Canada next presented Management of TNCs by Means of the Simple Network Management Protocol, in which his group of authors had developed an SNMP interface for controlling TNCs. Darryl Smith, VK2TDS, making the conference all the way from Australia, discussed Terminal Node Controllers -- Towards the Next Generation ? Darryl presented information that had been collected regarding potential future paths in TNC development. The first paper session concluded with an Update on Digital Voice Technologies by Paul L. Rinaldo, W4RI.

After the break, the next paper session began at 10:30am with the presentation by Greg Jones and Dewayne Hendricks entitled TAPR Status Report on Spread Spectrum Activity in the Amateur Radio Service. Dewayne detailed the current status of the STA and FCC rule making regarding SS. Next Tom McDermott, N5EG and Bob Stricklin, N5BRG presented the TAPR 900Mhz Spread-Spectrum Radio Design. The 30 min session hit the high points, since a more detailed 2 hour presentation was set for the Sunday SS seminar. Lots of questions and lots of answers during the presentation. The second paper session concluded with the two Student Paper Awards, funded again this year by the ARRL Foundation. The DCC committee would like to thank the ARRL Foundation for sponsoring the awards this second year. This year the Student Awards committee decided to fund two Technical Paper awards. Both papers were very good. The first student paper was by Mamdouh Gouda, who had flown in from Cranfield University, England, entitled "Detection and Estimation of Covert DS/SS Signals Using Higher Order Statistical Processing" This was a very technical method in locating DSSS signals without knowing their P/N sequence. This theory could be used in the future to actually call CQ and have someone find you without them knowing your P/N sequence. The second paper was by Matthew Ettus, N2MJI, of Carnegie Mellon University, entitled "An All-Software Advanced HF Modem for Amateur Radio." A very good talk on software HF modems.

After these papers, the conference broke for lunch and the awards for the student papers were given. The Student Awards committee is made up of Gerald Knezek, KB5EWV, Robert Diersing, N5AHD, and Greg Jones, WD5IVD. Gerald and

Robert will continue as co-chairs for the 1998 awards to be given at next year's DCC. Full details on the 1998 Student Paper Awards are already available on the TAPR web site, under the DCC link. If you have students, give this a look for next year!

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After lunch, the third paper session began with a presentation on the North American Digital Systems Directory (NADSD) by Greg Jones, WD5IVD. Greg described the NADSD, its formation, its operations, and activity seen since January. You can visit the NADSD at <http://www.tapr.org/directory>. Following Greg was Bob Bruninga, WB4APR, talking about the potential of AMSAT Mobile TRAKNET. The use of 1200baud LEO satellites for national and international location finding. Steve Dimse, K4HG, then discussed the APRServe: An Internet Backbone for APRS. Steve has been working on this project for a little over a year now and much was reported on the current status and future of the system. Bob Bruninga, WB4APR, then presented a paper on the APRS Vision System. Bob showed off his "APRS Rover" and talked about a very interesting way to transmit pictures with very low overhead. The session was concluded by Frank H. Bauer, KA3HDO, presenting his paper on Amateur Radio on Manned Space Vehicles: Improving Amateur Radio's Future Through Enhanced Space Frequencies. Frank talked about the issues with manned space frequencies for amateur radio usage and again proposed the APRS QSY.

The last paper session of the conference began with Tom Clark, W3IWI, and Rick Hambly, WB2TNL, discussing the TAPR TAC-2 Project. Tom, the designer of the TAC-2, talked about design issues and real world usage. Also, information on the next element of the project -- TOC -- was discussed. Rick discussed his Windows based TAC-2 software. Randy Gawtry, K0CBH, of Timewave Technology, Inc. then concluded the day with a talk about what Timewave was doing and how the acquisition of AEA was happening with product reintroductions. The group broke for the day and got ready for dinner.

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Dinner was held at 6pm. After dinner, several Plaques were awarded. A plaque was given to Keith Sproul, WU2Z, which read "TAPR Proudly Recognizes Keith Sproul, WU2Z, for outstanding service to TAPR as founder of the TAPR APRS Special Interest Group in 1994 and dedicated volunteer." Then an award was given to the local hosts of the conference. "ARRL and TAPR are pleased to recognize AMRAD for their participation as local co-host for the 1997 ARRL and TAPR Digital Communications Conference".

After the plaques were presented, Special Guest Speaker Yutaka Sakurai, JF1LZQ who is Vice President of Japan's Packet Radio User's Group (PRUG) gave a presentation entitled, "Japan's PRUG: A look at its history and a view to the future". He discussed the history of the PRUG from its early beginnings in the mid-80's and tracked its development to today. He also discussed some of PRUG's current projects and its goals for the future. It was a very interesting talk hearing about packet radio in Japan and seeing some of the projects they are doing. The entire presentation was sent back to Japan to their CUSeeMe server so their members and family in Japan could watch and listen. Great talk! After dinner, the TAPR membership meeting was

held.

Sunday, October 12th, 1998

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The Spread Spectrum Design and Theory Seminar started Sunday morning early. Coordinated by Dewayne Hendricks, WA8DZP, the seminar saw Phil Karn, KA9Q, Tom McDermott, N5EG, and Dewayne present for over five hours on Spread Spectrum Theory, Design, and Regulatory issues. The seminar was attended by over 80 people. It would be hard to describe all the information that was presented. Next best thing would be to listen to the entire seminar and download the overheads used. Phil Karn, KA9Q, discussed issues regarding coding and other SS theory that is important to cover. Tom McDermott, N5EG, then followed with an in-depth technical discussion using the TAPR 900Mhz FHSS radio project as the focus on the design constraints. Dewayne then followed with an impassioned talk regarding regulatory environment and the future of amateur radio and how SS and increased experimentation fits into all this.

#### Concluding Comments

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The ARRL and TAPR Joint Conference Committee is now looking at sites for next year. The group has a proposal from Ohio, Kansas City and Chicago to host next year's conference. There should be details as to next year's location by the first of 1998. Look for the ARRL and TAPR DCC in the Central US and to be held around September 25-27, 1998! Until next year!

#### Proceedings

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Not everything published in the proceedings got presented at the conference. The proceedings are now available from both ARRL and TAPR for \$15.00. Full abstracts are available on the TAPR web page ([www.tapr.org](http://www.tapr.org)). In addition, TAPR now has the complete set of proceedings available if you are missing any past issues.

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Reprinted from PSR November, 1997.

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Tucson Amateur Packet Radio

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e-mail: [tapr@tapr.org](mailto:tapr@tapr.org) ftp: [ftp.tapr.org](ftp://ftp.tapr.org) web: <http://www.tapr.org/>  
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From wd5ivd@tapr.org Sun Nov 23 12:20:14 1997

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Date: Sun, 23 Nov 1997 12:20:10 -0600  
To: "TAPR-BB list mailing"<tapr-bb@tapr.org>  
Subject: FCC ISSUES RF SAFETY SUPPLEMENT B TO OET BULLETIN 65

## FCC ISSUES RF SAFETY SUPPLEMENT B TO OET BULLETIN 65

Hams now have basic guidelines and tools to evaluate their stations for compliance with the FCC's RF exposure guidelines that start phasing in January 1, 1998. The FCC's Office of Engineering and Technology issued the long-anticipated Amateur Radio Supplement B to its OET Bulletin 65 on November 18. The FCC worked closely with the Amateur Radio community to develop the new supplement. Several ARRL Headquarters staff members and Technical Advisors reviewed preliminary drafts of the supplement. ARRL Lab Supervisor Ed Hare, W1RFI, has been the League's point man for RF safety and exposure issues.

"It has been my pleasure to work with the FCC staff and the amateur community in finalizing Supplement B," Hare said. "All who have been part of this process deserve the thanks of the entire amateur community."

Supplement B, entitled Additional Information for Amateur Radio Stations, contains detailed information specific to ham radio stations. It is designed to be used in conjunction with the FCC's OET Bulletin 65 (Version 97-01), Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields. The revised Bulletin 65 was issued earlier this year. Supplement B covers definitions of RF radiation and discusses the FCC exposure guidelines and their applications, methods of predicting human exposure, estimating compliance distances, and controlling exposure to RF fields. The supplement runs approximately 70 pages. Among its noteworthy highlights are numerous easy-to-use tables based on various frequencies, power levels and antenna configurations to help hams determine whether their stations comply with the FCC's published RF exposure guidelines. Most tables show compliance distance--the distance that an antenna needs to be located from areas of exposure to be in compliance. (For a closer look, see "FCC RF-Exposure Regulations--the Station Evaluation," by Ed Hare, W1RFI, which will appear in the January issue of QST.)

The new RF exposure rules go into effect January 1, 1998 for all new stations and for those filing a Form 610 with the FCC after that date. Existing stations have until September 1, 2000 to comply with the new rules. But, existing stations making changes that could affect RF exposure from their station--such as increasing power or relocating antennas--must evaluate that change if done after January 1, 1998.

As first announced, the FCC set a power threshold of 50 W to trigger the need to do a station evaluation. In late August, the FCC revised the power level thresholds to trigger a routine Amateur Radio station RF exposure evaluation. Those changes were welcome news for most hams. The newest

guidelines raised its original 50-W PEP threshold on all bands except 10 meters through 2 meters, where it remains at 50 W PEP. The FCC went along in part with an ARRL request and established a sliding scale for threshold levels dependent upon frequency. The revised thresholds (all PEP) are 500 W for 160 through 40 meters, 425 W on 30 meters (the maximum legal power is 200 W), 225 W on 20 meters, 125 W on 17 meters, 100 W on 15 meters, 75 W on 12 meters and 50 W on 10 meters. The threshold for all VHF bands is 50 W. On UHF, the threshold level is 70 W on 70 cm, 150 W on 33 cm, 200 W on 23 cm, and 250 W on 13 cm and higher frequencies.

The threshold for amateur repeaters is 500 W effective radiated power (ERP) if the repeater antenna is located on a building or is less than 10 meters above ground. Stations operating at or below these respective power levels are categorically excluded from having to conduct a routine RF radiation evaluation. Mobile and portable (hand-held) devices using push-to-talk operation generally are also exempt from evaluation. But, all stations--regardless of power level--still must comply with the RF exposure limits that become effective New Year's Day.

OET Bulletin 65 and the new Supplement B are available at <http://www.fcc.gov/oet/info/documents/bulletins/#65>. Copies are available from International Transcription Service Inc, 1231 20th St NW, Washington, DC 20036; tel 202-857-3800; fax 202-857-3805.

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Content-Type: text/plain; charset="us-ascii"  
Date: Sun, 30 Nov 1997 01:59:51 -0600  
To: "TAPR-BB list mailing"<tapr-bb@tapr.org>  
From: Greg Jones <wd5ivd@tapr.org>  
Subject: NADSD End of Year

#### TAPR North American Digital System Directory

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It seems just yesterday that TAPR's North American Digital System Directory (NADSD) was merely in the idea stage. That was in November of 1996 - and a year later that idea has been transformed into reality. Thanks to a core group of TAPR volunteers - and to over sixty contributors of data - over 4,200 listings covering 42 States and 8 Provinces are available free-of-charge on the TAPR web page (<http://www.tapr.org/directory>). The project has become an astounding success!

It is to you - contributors of data to the NADSD - that we say THANKS!  
You have made the idea become reality!

As we look forward to 1998, the NADSD team has two objectives and one major project in mind. First, the objectives:

We need to review our individual listings and make sure that they are still accurate and complete. Many of us wanted to get the initial data into the system last year so we submitted only the minimum required data. The need now is to get all of the data for each entry. Please take the time to review your data and add missing fields like LAT/LON, network type and system type. These fields are important so that the mapping features created by Steve Dimse, K4HG, can work. (If you haven't experienced Steve's neat mapping features, give the NADSD maps a try!)

This has also been a year of many changes. BBS's have left the air, some have been added, nodes have been added and some have gone off-the-air. The NADSD needs to capture all of these changes if it is to remain accurate.

Second, we need to expand our listings. We have 42 States represented - some with only a small number of listings. We need to add to our listings to include more systems in our areas - and more States. Please encourage other keepers of lists about digital communication systems to become data providers for the NADSD.

Our major project coming up in January, is the publication of the NADSD in the 1998 TAPR CD-ROM. We want to make sure that the NADSD is really up-to-date so that everyone who buys the TAPR CD-ROM gets to see our project at it's very best!

In summary, please take the time to review and up-date your submissions to the NADSD. Use the normal FTP process to send your updates. Just a reminder - if you use a different file name than you did when you last submitted data, be sure to delete the OLD data file. The deadline for submitting your data to make it into the 1998 CD-ROM is December 31, 1997.

Thanks for your help in making this a great beginning for the North American Digital System Directory.!

73,

Carl - WA0CQG

TAPR North American Digital System Directory team focal point

WA0CQG@TAPR.ORG

P.S. There was a paper published and presented in October at the ARRL and TAPR DCC regarding the NADSD. Give it a listen and a print.  
<http://www.tapr.org/directory/info.html>